

Work Order ID 58196

April 28, 2010 9:59:34 AM



Page 1

Item ID: D212-664-101TRN

Accept



Setup Start



Revision ID:

Item Name: Crosstube Turning Detail

Stop



Start Date: 28/04/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 05/05/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date: 20-4-28

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								

100	MORI SEIKI CNC LATHE LARGE	0.00							
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	Memo	1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA113 2-Turn first side as per Folio FA113 3-File down transition lines smooth.	0.00						
110	QC1- Inspect dimensions to dimension sheet	0.00							
QC	Memo	0.00							
Quality Control	Memo								
120	MORI SEIKI CNC LATHE LARGE	0.00							
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	Memo	1-Turn second side as per Folio FA113 2-File down transition lines smooth. 3-Remove sand and plugs	0.00						

O.M 10 - 04 - 29 @

O.M 10 - 04 - 29 @

O.M 10 - 04 - 29 @

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

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Page 2

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	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130 QC Quality Control	QC1- Inspect dimensions to dimension sheet Memo	0.00				9.1	10	04	- 290
----------------------------------	--	------	--	--	--	-----	----	----	-------

140 QC Quality Control	QC8- Inspect parts - second check Memo	0.00				1	-	-	AUM 10-04-29
----------------------------------	---	------	--	--	--	---	---	---	-----------------

150 HandFXtube Hand Finishing Crosstubes	Crosstubes Chemical Conversion Memo	0.00				1	-	-	AUM 10-04-29
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Page 3

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Customer:

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Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC3- Inspect Part Finish

0.00

(OK)

D

MB 10-04-29

QC

Quality Control

170



Packaging

0.00

1 - - Awm
10-04-29

Packaging

Packaging

Memo

0.00

Identify and Stock in kanban rack
Location: X-TURE <<<Identify and Stock in kanban rack
Location: X-TURE <<<

180



QC21- Final Inspection - Work Order Release

0.00

10/04/30 HJ

QC

Quality Control

Memo

0.00

MF
10-4-30

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Picklist Print

April 28, 2010 9:59:39 AM

Page 1

Work Order ID: 58196



Parent Item: D212-664-101TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 28/04/2010

Required Date: 05/05/2010

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
IPP Rev B 08.04.02 removed Polish EC verified by: DD

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6005-128		Manufactured	No			120	Each	20.0000	1.0000			



Crosstube Material

A.M 10-04-290

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG	20	
53593	20	

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NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	58194
Description: Crosstube Assembly (205/212/412 High Fwd)	Part Number:	D212-664-141
Inspection Dwg: D212-664-141 Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	0.200	/		
	R0.063	+/-0.010	R0.063	/		
	2.740	+0.005/-0.000	2.741	/		
	5.097	+/-0.030	5.097	/		
	2.304	+0.005/-0.000	2.306	/		
	2.340	+0.005/-0.000	2.343	/		
	2.398	+0.005/-0.000	2.401	/		
	2.448	+0.005/-0.000	2.450	/		
	2.498	+0.005/-0.000	2.501	/		
	2.549	+0.005/-0.000	2.551	/		
	2.599	+0.005/-0.000	2.601	/		
	2.671	+0.005/-0.000	2.671	/		
	2.701	+0.005/-0.000	2.701	/		
SIDE B	0.200	+/-0.010	0.200	/		
	R0.063	+/-0.010	R0.063	/		
	2.740	+0.005/-0.000	2.741	/		
	5.097	+/-0.030	5.097	/		
	2.304	+0.005/-0.000	2.306	/		
	2.340	+0.005/-0.000	2.343	/		
	2.398	+0.005/-0.000	2.401	/		
	2.448	+0.005/-0.000	2.450	/		
	2.498	+0.005/-0.000	2.501	/		
	2.549	+0.005/-0.000	2.551	/		
	2.599	+0.005/-0.000	2.601	/		
	2.671	+0.005/-0.000	2.671	/		
	2.701	+0.005/-0.000	2.701	/		
	126.514	+/-0.020	126.514	/		

Measured by:	<i>A. M</i>	Audited by:	<i>PW M</i>	Prototype Approval:	N/A
Date:	10/04/29	Date:	10-4-29	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-101)	KJ/JLM	
B	06.03.15	Tolerance revised for 5.097 per Dwg Rev update	KJ/JLM	
C	07.05.28	Dwg Rev updated	KJ/JLM	
D	10.02.02	Dimension 126.514 was 126.51	KJ <i>[Signature]</i>	M <i>[Signature]</i>

W/O:		WORK ORDER CHANGES							
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NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

D

Item	Qty -141	Qty -141B	Part Number	Description
1	X		D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		X	D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	1	D6005-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	4	4	MS21920-25	CLAMP (OR MS21920-26)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 126.514 ± 0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664)
D212-664-141B = 33.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLD COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO: 52194
BS 0-4-28

RELEASED
2009-10-29
MM

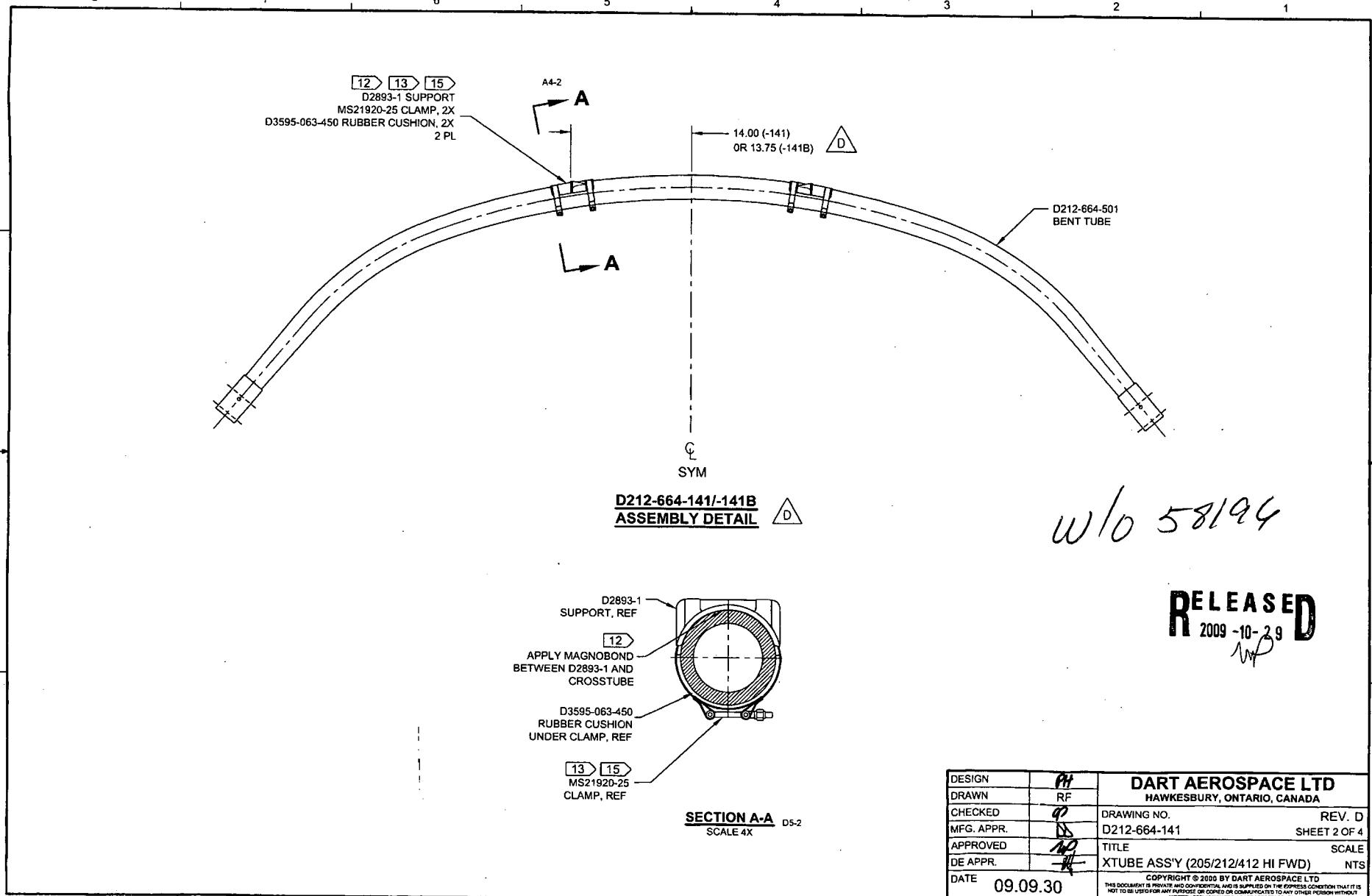
D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C6-3, CB-3 & BB-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>PH</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO. D212-664-141	
CHECKED	<i>Q</i>	REV. D	SHEET 1 OF 4
MFG. APPR.	<i>DS</i>	TITLE	
APPROVED	<i>ND</i>	SCALE	
DE APPR.	<i>ND</i>	XTUBE ASSY (205/212/412 HI FWD) NTS	
DATE	09.09.30	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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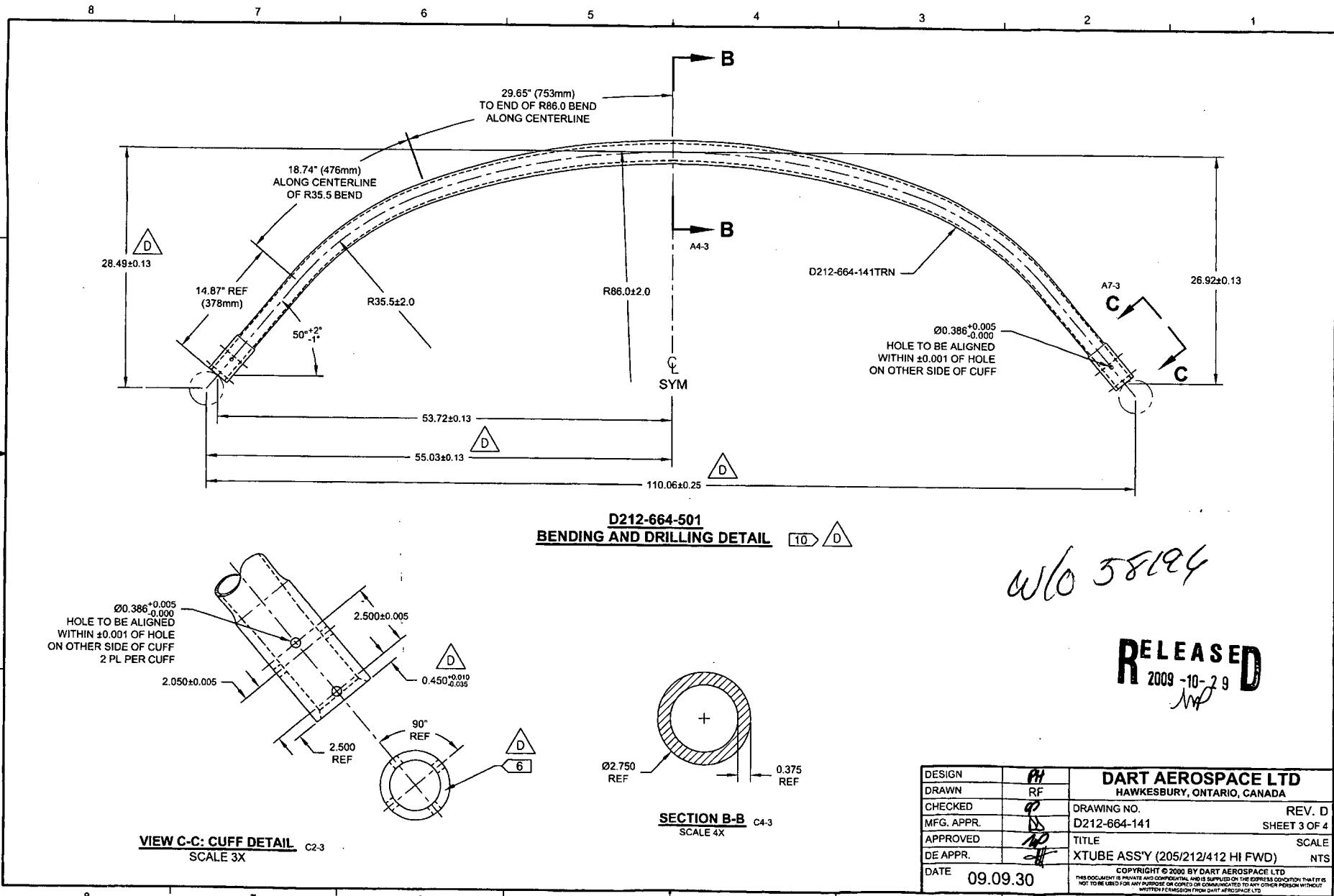
DESIGN	<i>RF</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	<i>RF</i>	DRAWING NO. D212-664-141
CHECKED	<i>RF</i>	REV. D SHEET 2 OF 4
MFG. APPR.	<i>RF</i>	
APPROVED	<i>RF</i>	TITLE SCALE NTS
DE APPR.	<i>RF</i>	XTUBE ASS'Y (205/212/412 HI FWD)
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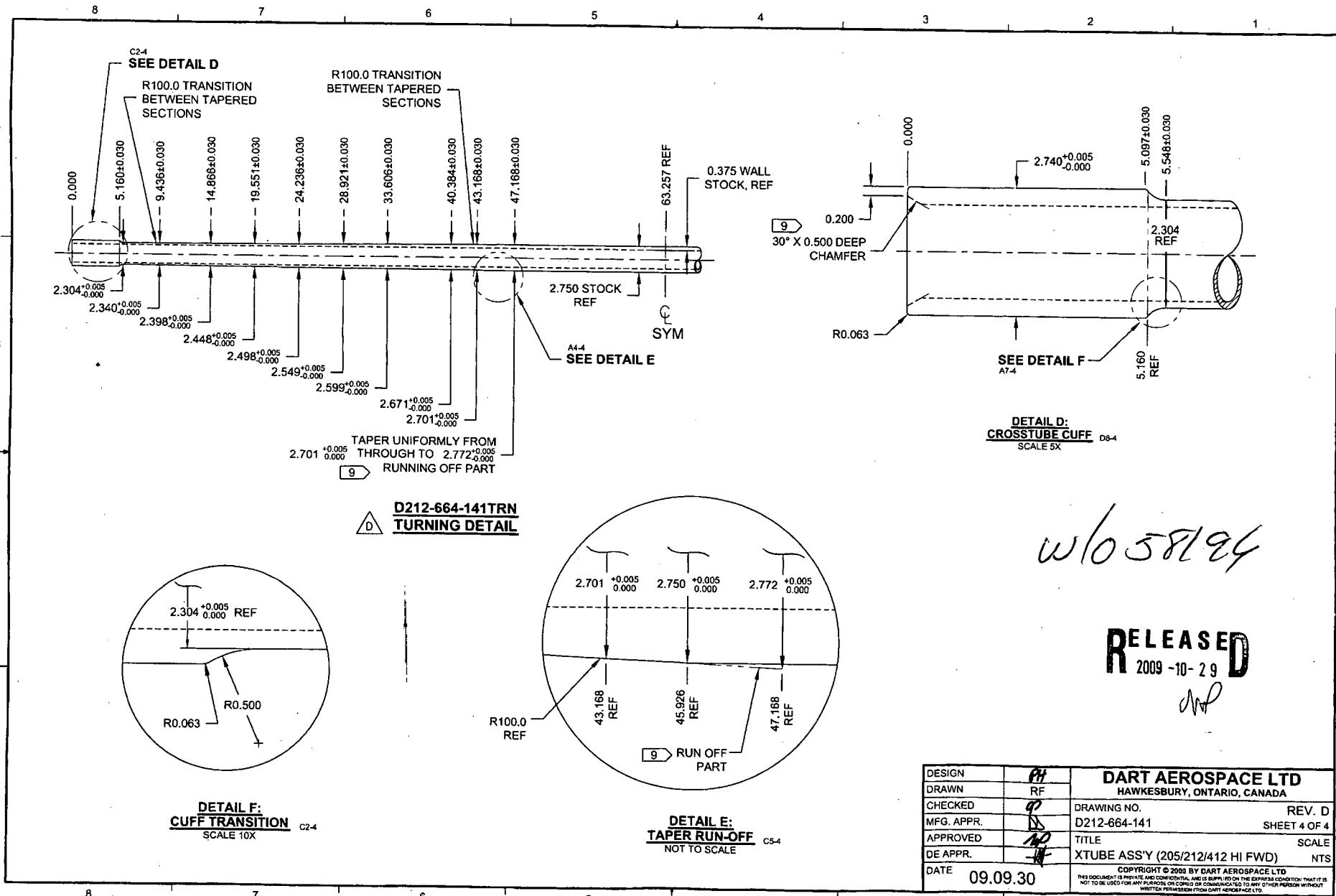


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